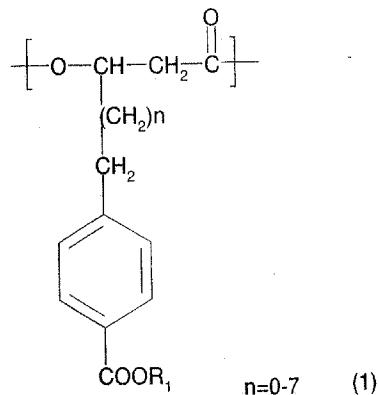


B. Claims

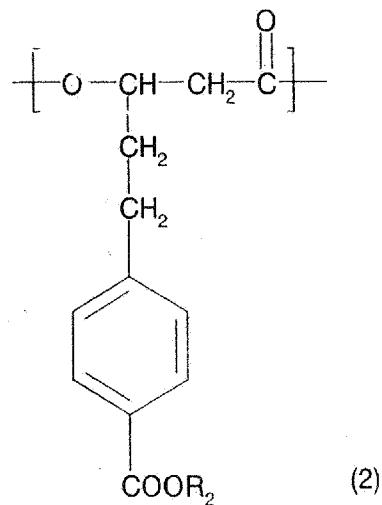
The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. (Original) A polyhydroxyalkanoate containing in a molecule thereof one or more 3-hydroxy- $\omega$ -(4-carboxyphenyl)alkanoic acid units represented by a chemical formula (1):



wherein n is an integer selected from 0 to 7; R<sub>1</sub> is an H, Na or K atom; and when more than one unit exists, n and R<sub>1</sub> may differ from unit to unit, respectively.

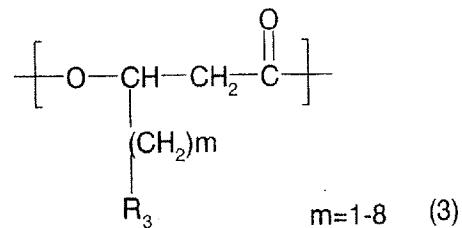
2. (Original) The polyhydroxyalkanoate according to claim 1, wherein the 3-hydroxy- $\omega$ -(4-carboxyphenyl)alkanoic acid unit represented by the chemical formula (1) is a 3-hydroxy- $\omega$ -(4-carboxyphenyl)valeric acid unit represented by a chemical formula (2):



(2)

wherein  $R_2$  is, an H, Na or K atom and, when more than one unit exists, it may differ from unit to unit.

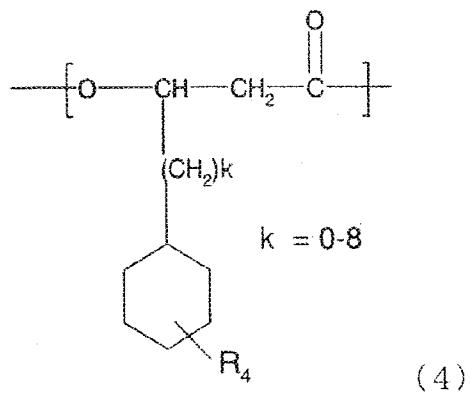
3. (Original) The polyhydroxyalkanoate according to claim 1, wherein the polyhydroxyalkanoate contains, besides the 3-hydroxy- $\omega$ -(4-carboxyphenyl)alkanoic acid unit represented by the chemical formula (1), at least either a 3-hydroxy- $\omega$ -substituted alkanoic acid unit represented by a chemical formula (3):



$m=1-8$  (3)

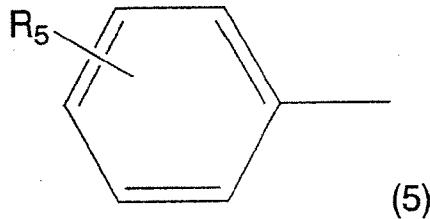
wherein  $m$  is an integer selected from 1 to 8;  $R_3$  comprises a residue having a ring structure of either a phenyl or a thienyl structure; and when more than one unit exists,  $m$  and  $R_3$  may differ from unit to unit, respectively; or

a 3-hydroxy- $\omega$ -cyclohexylalkanoic acid unit represented by a chemical formula (4):



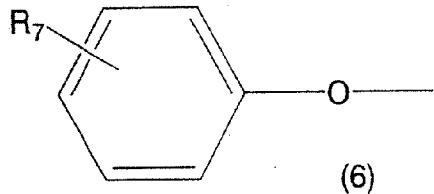
wherein  $R_4$  represents a substituent on a cyclohexyl group and is an H atom, a CN group, an  $NO_2$  group, a halogen atom, a  $CH_3$  group, a  $C_2H_5$  group, a  $C_3H_7$  group, a  $CF_3$  group, a  $C_2F_5$  group or a  $C_3F_7$  group; k is an integer selected from 0 to 8; and when more than one unit exists, k and  $R_4$  may differ from unit to unit.

4. (Currently Amended) The polyhydroxyalkanoate according to claim [[1]] 3, wherein R<sub>3</sub> in the chemical formula (3) having a phenyl or thiienyl structure is at least any one selected from the group consisting of residues represented by chemical formula (5), (6), (7), (8), (9), (10), (11), (12), (13), (14) and (15), wherein the chemical formula (5) represents a group consisting of unsubstituted and substituted phenyl groups:



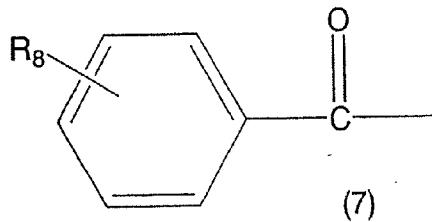
wherein  $R_5$  represents a substituent on the aromatic ring and is an H atom, a halogen atom, a CN group, an  $NO_2$  group, a  $CH_3$  group, a  $C_2H_5$  group, a  $C_3H_7$  group, a  $\alpha\text{CH}=\text{CH}_2$  group,  $\text{COOR}_6$  ( $R_6$  represents any one of H, Na and K atoms), a  $CF_3$  group, a  $C_2F_5$  group or a  $C_3F_7$  group; and when more than one unit exists,  $R_5$  may differ from unit to unit;

the chemical formula (6) represents a group consisting of unsubstituted and substituted phenoxy groups:



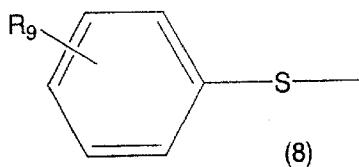
wherein  $R_7$  represents a substituent on the aromatic ring and is an H atom, a halogen atom, a CN group, an  $NO_2$  group, a  $CH_3$  group, a  $C_2H_5$  group, a  $C_3H_7$  group, an  $SCH_3$  group, a  $CF_3$  group, a  $C_2F_5$  group or a  $C_3F_7$  group; and when more than one unit exists,  $R_7$  may differ from unit to unit;

the chemical formula (7) represents a group consisting of unsubstituted and substituted benzoyl groups:



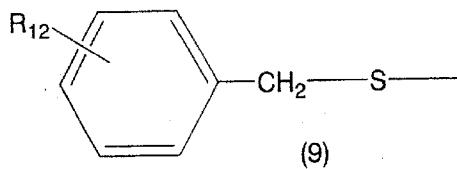
wherein R<sub>8</sub> represents a substituent on the aromatic ring and is an H atom, a halogen atom, a CN group, an NO<sub>2</sub> group, a CH<sub>3</sub> group, a C<sub>2</sub>H<sub>5</sub> group, a C<sub>3</sub>H<sub>7</sub> group, a CF<sub>3</sub> group, a C<sub>2</sub>F<sub>5</sub> group or a C<sub>3</sub>F<sub>7</sub> group; and when more than one unit exists, R<sub>8</sub> may differ from unit to unit;

the chemical formula (8) represents a group consisting of unsubstituted and substituted phenylsulfanil groups:



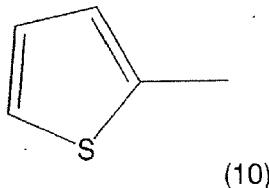
wherein R<sub>9</sub> represents a substituent on the aromatic ring and is an H atom, a halogen atom, a CN group, an NO<sub>2</sub> group, a COOR<sub>10</sub>, an SO<sub>2</sub>R<sub>11</sub> (R<sub>10</sub> represents any one of an H atom, an Na atom, a K atom, a CH<sub>3</sub> group and a C<sub>2</sub>H<sub>5</sub> group and R<sub>11</sub> represents any one of an OH group, an ONa group, an OK group, a halogen atom, an OCH<sub>3</sub> group and OC<sub>2</sub>H<sub>5</sub> group), a CH<sub>3</sub> group, a C<sub>2</sub>H<sub>5</sub> group, a C<sub>3</sub>H<sub>7</sub> group, a (CH<sub>3</sub>)<sub>2</sub>-CH group or a (CH<sub>3</sub>)<sub>3</sub>-C group; and when more than one unit exists, R<sub>9</sub> may differ from unit to unit;

the chemical formula (9) represents a group consisting of unsubstituted and substituted (phenylmethyl)sulfanil groups:

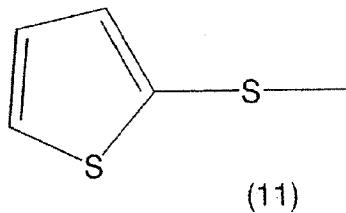


wherein  $R_{12}$  represents a substituent on the aromatic ring and is an H atom, a halogen atom, a CN group, an  $NO_2$  group, a  $COOR_{13}$ , an  $SO_2R_{14}$  ( $R_{13}$  represents any one of an H atom, an Na atom, a K atom, a  $CH_3$  group and a  $C_2H_5$  group and  $R_{14}$  represents any one of an OH group, an  $ONa$  group, an  $OK$  group, a halogen atom, an  $OCH_3$  group and  $OC_2H_5$  group), a  $CH_3$  group, a  $C_2H_5$  group, a  $C_3H_7$  group, a  $(CH_3)_2-CH$  group or a  $(CH_3)_3-C$  group; and when more than one unit exists,  $R_{12}$  may differ from unit to unit;

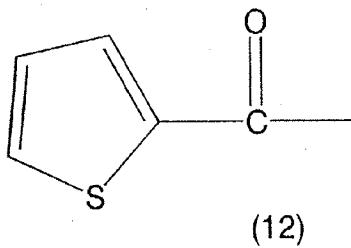
the chemical formula (10) represents 2-thienyl group:



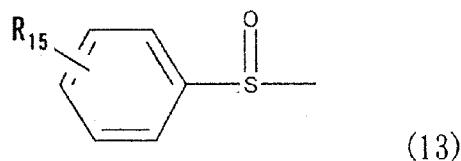
the chemical formula (11) represents a 2-thienylsulfanil group:



the chemical formula (12) represents a 2-thienylcarbonyl group:

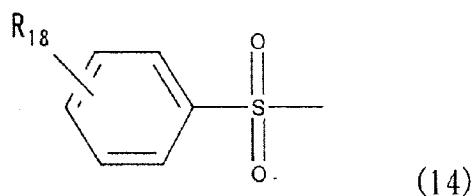


the chemical formula (13) represents a group consisting of unsubstituted and substituted phenylsulfenyl groups:



wherein  $R_{15}$  represents a substituent on the aromatic ring and is an H atom, a halogen atom, a CN group, an  $NO_2$  group, a  $COOR_{16}$ , an  $SO_2R_{17}$  ( $R_{16}$  represents any one of an H atom, an Na atom, a K atom, a  $CH_3$  group and a  $C_2H_5$  group and  $R_{17}$  represents any one of an OH group, an  $ONa$  group, an  $OK$  group, a halogen atom, an  $OCH_3$  group and  $OC_2H_5$  group), a  $CH_3$  group, a  $C_2H_5$  group, a  $C_3H_7$  group, a  $(CH_3)_2-CH$  group or a  $(CH_3)_3-C$  group; and when more than one unit exists,  $R_{15}$  may differ from unit to unit;

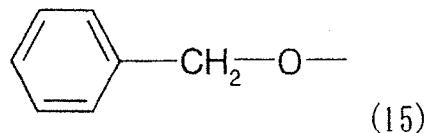
the chemical formula (14) represents a group consisting of unsubstituted and substituted phenylsulfonyl groups:



wherein  $R_{18}$  represents a substituent on the aromatic ring and is an H atom, a halogen atom, a CN group, an  $NO_2$  group, a  $COOR_{19}$ , an  $SO_2R_{20}$  ( $R_{19}$  represents

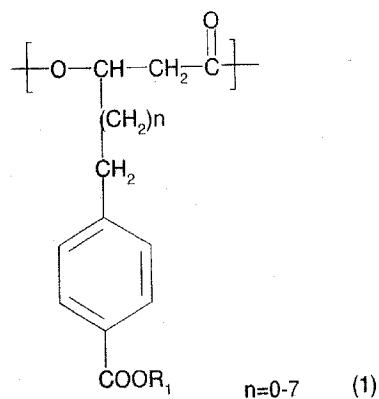
any one of an H atom, an Na atom, a K atom, a  $\text{CH}_3$  group and a  $\text{C}_2\text{H}_5$  group and  $\text{R}_{20}$  represents any one of an OH group, an  $\text{ONa}$  group, an  $\text{OK}$  group, a halogen atom, an  $\text{OCH}_3$  group and  $\text{OC}_2\text{H}_5$  group), a  $\text{CH}_3$  group, a  $\text{C}_2\text{H}_5$  group, a  $\text{C}_3\text{H}_7$  group, a  $(\text{CH}_3)_2\text{-CH}$  group or a  $(\text{CH}_3)_3\text{-C}$  group; and when more than one unit exists,  $\text{R}_{18}$  may differ from unit to unit; and

the chemical formula (15) represents a group of a (phenylmethyl)oxy group:



5. (Original) The polyhydroxyalkanoate according to claim 1, wherein a number average molecular weight of the polyhydroxyalkanoate is selected to fall in a range of 1000 to 1000000.

6. (Original) A process for preparing a polyhydroxyalkanoate represented by the chemical formula (1):

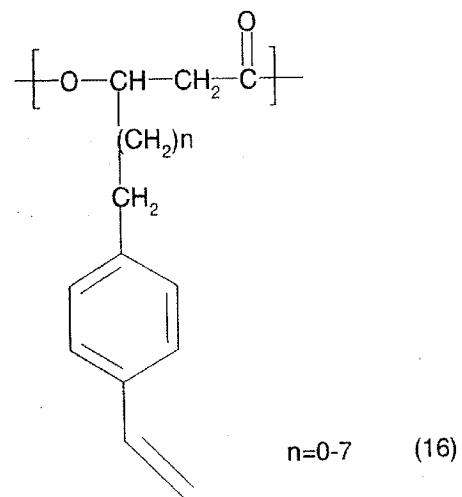


wherein n is an integer selected from 0 to 7; R<sub>1</sub> is an H, Na or K atom; and when more than one unit exists, n and R<sub>1</sub> may differ from unit to unit, respectively,

the process comprising the steps of:

preparing, as a raw material, a 3-hydroxy- $\omega$ -(4-

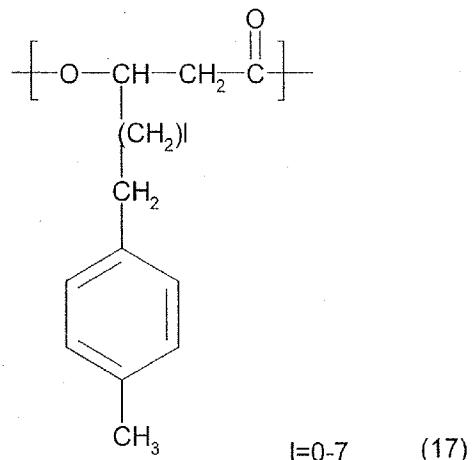
vinylphenyl)alkanoic acid unit represented by the chemical formula (16):



wherein n is an integer selected from 0 to 7; and when more than one unit exists, n may differ from unit to unit.

or

3-hydroxy- $\omega$ -(4-methylphenyl)alkanoic acid unit represented by the chemical formula (17):

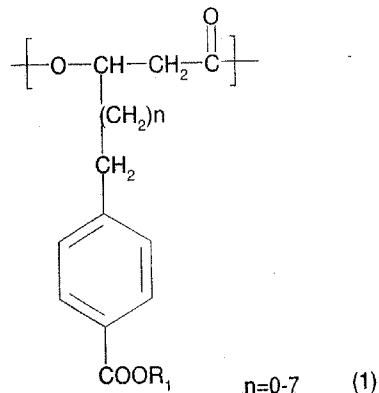


wherein 1 is an integer selected from 0 to 7; and when more than one unit exists, 1 may differ from unit to unit; and

oxidizing the double bond portion of the polyhydroxyalkanoate represented by the chemical formula (16) or the methyl group portion of the polyhydroxyalkanoate represented by the chemical formula (17).

7-11. (Cancelled)

12. (Original) A resin composition comprising a resin (A) and a thermoplastic resin (B), the resin (A) being a polyhydroxyalkanoate that contains, in a polymer molecule thereof, at least one kind of unit of the 3- hydroxy- $\omega$ -(4-carboxyphenyl)alkanoic acid units represented by the chemical formula (1):



wherein n is an integer selected from the range shown in the formula; R<sub>1</sub> is an H, Na or K atom; and when more than one unit exists, n and R<sub>1</sub> may differ from unit to unit, respectively.

13. (Currently Amended) [[The]] A resin composition according to claim 12 comprising a resin (A) and a thermoplastic resin (B), wherein the resin (A) is a polyhydroxyalkanoate is the one according to claim 2.

14. (Original) The resin composition according to claim 12, wherein the thermoplastic resin (B) comprises one or more resins selected from the group consisting of polyester-based resin, polystyrene-based resin, polypropylene-based resin, polyethylene terephthalate-based resin, polyurethane-based resin, polyvinyl-based resin and polyamide-based resin.

15. (Original) The resin composition according to claim 14, wherein the polystyrene-based resin is polystyrene.

16. (Original) The resin composition according to claim 12, wherein the polyester-based resin is poly- $\epsilon$ -caprolactone or polylactic acid.

17. (Original) The resin composition according to claim 12, further comprising additives for resin.

18. (Original) A molding molded from a resin composition according to claim 12.

19. (Currently Amended) The molding according to claim 18, ~~wherein~~ wherein the molding is a container.

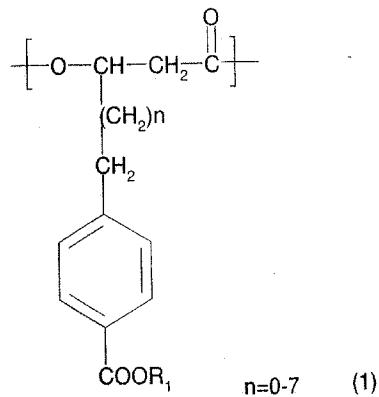
20. (Original) The molding according to claim 21, wherein the molding is at least any one selected from the group consisting of containers for foods, drinks, toiletries, drugs and cosmetics.

21. (Original) The molding according to claim 18, wherein the molding is biodegradable.

22. (Original) The molding according to claim 18, wherein the molding is used in a temperature environment of 140°C or less.

23. (Original) A method of producing a molding comprising heating a resin composition according to claim 12 for molding.

24. (Original) A charge controlling agent for controlling a charged state of powder and granular materials, the agent comprising a polyhydroxyalkanoate that has at least one kind of unit selected from the group consisting of the 3-hydroxy-o-(4-carboxyphenyl)alkanoic acid units represented by the chemical formula (1):



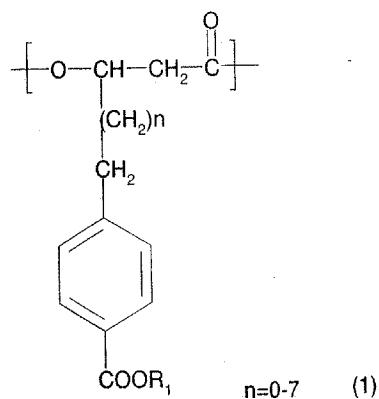
wherein n is an integer selected from the range shown in the formula; R<sub>1</sub> is an H, Na or K atom; and when more than one unit exists, n and R<sub>1</sub> may differ from unit to unit, respectively.

25. (Currently Amended) [[The]] A charge controlling agent according to claim 24, wherein the polyhydroxyalkanoate is for controlling a charged state of powder and granular materials, the agent comprising a polyhydroxyalkanoate according to claim 2.

26. (Original) The charge controlling agent according to claim 24, wherein the powder and granular material is a toner for developing electrostatic latent images.

27. (Original) A toner for developing an electrostatic latent image comprising at least a binder resin, a colorant and a charge controlling agent according to claim 24.

28. (Original) A binder resin for forming a resin-based powder and granular material comprising a polyhydroxyalkanoate whose polymer molecule comprises at least one kind of unit selected from the group consisting of the 3-hydroxy-o-(4-carboxyphenyl)alkanoic acid units represented by the chemical formula (1):

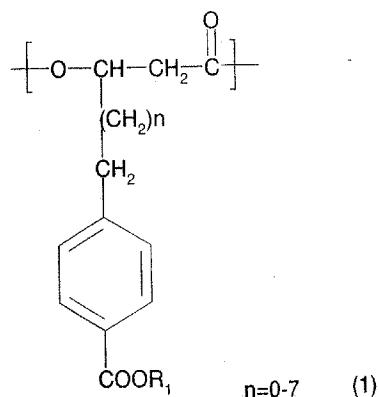


wherein n is an integer selected from the range shown in the formula; R<sub>1</sub> is an H, Na or K atom; and when more than one unit exists, n and R<sub>1</sub> may differ from unit to unit, respectively.

29. (Currently Amended) [[The]] A binder resin according to claim 28,  
wherein the for forming a resin-based powder and granular material comprising a  
polyhydroxyalkanoate is the one according to claim 2.

30. (Original) The binder resin according to claim 28, wherein the resin  
further comprises a thermoplastic resin, besides the polyhydroxyalkanoate, and a content of  
the polyhydroxyalkanoate is larger than that of the thermoplastic resin.

31. (Currently Amended) [[The]] A binder resin according to claim 30,  
wherein the resin further comprises for forming a resin-based powder and granular material  
comprising a polyhydroxyalkanoate whose polymer molecule comprises at least one kind  
of unit selected from the group consisting of the 3-hydroxy-o-(4-carboxyphenyl)alkanoic  
acid units represented by the chemical formula (1):



wherein n is an integer selected from the range shown in the formula; R<sub>1</sub> is an H, Na or K atom; and when more than one unit exists, n and R<sub>1</sub> may differ from unit to unit, respectively; and

a resin composition according to claim 14.

32. (Original) The binder resin according to claim 30, wherein the thermoplastic resin is one or more selected from the group consisting of polycaprolactone and polylactic acid.

33. (Original) The binder resin according to claim 28, wherein the resin has a number average molecular weight of 2,000 or more and 300,000 or less.

34. (Original) The binder resin according to claim 28, wherein the binder resin has a glass transition point of 30 to 80°C and a softening point of 60 to 170°C.

35. (Original) The binder resin according to claim 28, wherein the resin-based powder and granular material is a toner for developing electrostatic latent images.

36. (Original) A toner for developing electrostatic latent images containing a binder resin according to claim 28.

37. (Original) An image forming method comprising at least the steps of:

charging an electrostatic latent image-holding member by applying voltage to a charging member from outside;

forming an electrostatic latent image on the charged electrostatic latent image-holding member;

developing the electrostatic latent image with a toner for developing electrostatic latent images to form a toner image on the electrostatic latent image-holding member;

transferring the toner image on the electrostatic latent image-holding member to a recording medium; and

fixing the toner image on the recording medium by heat,  
wherein the toner is a toner according to claim 27.

38. (Original) The image forming method according to claim 37, wherein the transferring step comprises a first transferring step of transferring the toner image on the electrostatic latent image-holding member to an intermediate transfer medium; and a second transferring step of transferring the toner image on the intermediate transfer medium to the recording medium.

39. (Original) An image forming apparatus comprising at least charging means for charging an electrostatic latent image-holding member by applying voltage to a

charging member from outside; electrostatic latent image forming means for forming an electrostatic latent image on the charged electrostatic latent image-holding member; developing means for developing the electrostatic charge image with a toner for developing electrostatic charge images to form a toner image on the electrostatic latent image-holding member; transferring means for transferring the toner image on the electrostatic latent image-holding member to a recording medium; and fixing means for fixing the toner image on the recording medium by heat, wherein the toner for developing electrostatic charge images is a toner according to claim 27.

40. (Original) The image forming apparatus according to claim 39, wherein the transferring means comprises a first transferring means for transferring the toner image on the electrostatic latent image-holding member to an intermediate transfer medium; and a second transferring means for transferring the toner image on the intermediate transfer medium to the recording medium.